

tion of the shell is also impaired and the limy portion made more conspicuous through its general bleaching effect and whitening of the callus of the columella. Mr. Tryon's *Physa politissima*, collected by Rev. J. Rowell, at Sacramento, and described and figured in Am. Journ. Conch., Vol. I, 1865, is probably one aspect of Lea's *P. triticea*. It is from a lower station, with an elevation variously stated as from thirty-one to eighty-two feet above sea level, and within the same drainage system.

The summing up of the foregoing leads to the conclusion that the first-named species (that made by Dr. Lea) is but a dwarfed and arrested aspect of *P. gyrina*, and Mr. Tryon's species is but another facies of the same.

Of the number of species that have been made upon characters that are simply those of adolescence, it would be interesting to know. Doubtless a great many, and not only among the fluviatile and lacustrine forms, but among marine forms also. This fact almost daily presents itself where one's routine work is the selection of specimens or examples for a great museum, and the determination of species from a great mass of material. Sometimes one is led to think that it is a pity, either that animals are not born fully grown, or that those who describe them do not bear in mind the fact that mollusks, etc., like men, have to advance by gradual growth from babyhood and the various stages of adolescence to maturity.

HELIX NEMORALIS IN VIRGINIA.

BY H. A. PILSBRY.

The *H. nemoralis* does not appear to have been naturalized in America except at Burlington, New Jersey, where it was introduced by Mr. W. G. Binney, many years ago. A short time since, I received a parcel of *nemoralis* shells from Prof. Jas. H. Morrison, of Lexington, Va. In response to a letter of inquiry Prof. Morrison gives the circumstances of its introduction as follows:

"The first specimen was found in the grounds of the Virginia Military Institute, in 1886, and was sent to Prof. Baird, who called it '*Helix hortensis*,' stating that this was a new locality. A few days afterwards I found quite a number of specimens and sent part of them to Mr. Tryon, who said they were '*Helix nemoralis*', and gave all the necessary information to establish this point. I found

upon examination that they were brought here in earth in flower pots, though from what locality I could not fix. The banded form was first introduced, like that in the top of the box sent by this mail. I have planted several colonies in this region and they have all done well and are breeding rapidly; as evidence of this I collected over 400 specimens in about one hour's time in a circle, the radius of which was not more than 25 yards. I send by this mail a small box containing the different varieties of color and stripe collected up to date. If you can give me the names of any parties who would be interested in them, it will give me great pleasure to send specimens."

The series comprises many of the band combinations seen in European specimens. The shells seem to be indistinguishable from natives of the old world. The English conchologists have attempted to catalogue and name the color varieties of these five-banded snails—the *Pentatenuia* of Schmidt—and with a view to ascertaining just what forms are represented in America. I sent the specimens from Lexington to Mr. T. D. A. Cockerell, of West Cliff, Colorado, who kindly furnished me the list of some fifteen named forms. Mr. Cockerell writes: "The specimens could not in any way be distinguished from those of Europe. It will be interesting to compare another series with the present from the same locality five or ten years hence, and see whether the environment has greatly affected the variation. Indeed, it would be good to collect and catalogue say two hundred and fifty specimens every year, if they are numerous enough."

It would be interesting to observe whether the several color varieties intercross freely, or prefer to breed with individuals of their own color-pattern, and so perpetuate and intensify the color-races. If the latter be true, it will tend to establish the theory of "divergent evolution through cumulative segregation," by which Mr. Gulick explains the divergence of the numerous species of *Achatinella* inhabiting the same districts of the Sandwich Islands, and living apparently under identical environments.

SCALARIA ANGULATA IN NEW JERSEY.

ED. NAUTILUS, Dear Sir:

In response to the request appended to the catalogue of Southern New Jersey Marine Shells, published in the July number of the